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The Development of Science Module Integrated with Value Alquran and Hadith Value to Improve Student's Religious Character

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Abstract

This study aims to test the validity of the integrated science module of the Qur'an and Hadith to improve the religious character of junior high school students, its effectiveness based on cognitive learning outcomes, and the application of religious characters. The research method uses Research and Development, which consists of research, development, validation, and small- and large-scale trials. The developed module is validated by material experts, media experts, teachers and students. Module testing was carried out using the Times Series Design on 23 samples of junior high school students. The results of module validation by material experts with fairly valid criteria and media experts with very valid criteria. The teacher response criteria are very valid, and the student response is quite valid. Cognitive learning outcomes using modules based on N-gain results have moderate criteria. The applicability of religious characters during learning has moderate criteria.

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INTRODUCTION

Character is the root of all action, be it good or bad. A strong character becomes a foundation for mankind to live together in peace and security free from immoral actions (Majid & Andayani, 2010: 11). Based on the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 20 of 2018 concerning Strengthening Character Education, character education becomes a national education platform to equip participants with the spirit of Pancasila and good character to face the dynamics of change in the future (Article 2). Integrated character education in the learning process is the introduction of values, facilities for obtaining awareness of the importance of values, and internalizing values into everyday student behavior through a learning process both inside and outside the classroom in all subjects.

Religious character is one of the values that exist in character education. This character is closely related to religious values because religious values come from religion and are able to enter into a person's soul. Learning in schools as a place to gain knowledge is also one of the places to educate and apply these characters.

The results of observations of science learning at the Ulul Abshor Integrated Islamic Boarding School Junior High School are still not facilitated by the learning resources used by students to study independently at school and at home. In addition, at the Ulul Abshor Integrated Islamic Boarding School, which has an Islamic school background, there is no teaching material that links the subject matter with the Koran and Hadith and does not display the true value of Islam in student life. Schools have been more inclined to curb behavior that is contrary to student morale. In the learning process, the teacher only provides science knowledge but has not instilled a religious character in every learning process. In addition, teachers in general are said to have no special ability to compile their own teaching materials. The results of research by Turi et al. (2017) show that most teachers still have difficulty in developing their own learning tools, including teaching materials.

One solution so that the learning process prioritizes student activity and provides meaning and instills religious values is by using teaching materials called modules. The use of teaching materials is an alternative for teachers to make it easier to teach material to students. The module is used to make it easier for students to understand the material presented, independently or through teacher guidance (Yuberti, 2014). Modules can be made in various forms according to school needs, school characteristics, and the teaching materials to be presented.

Science as a science that studies nature raises religious values that can be developed, for example by inserting verses from the Koran (Kauniyah) and Hadith that are relevant to the discussion in Science (Latifah & Ratnasari, 2016). The essence of science is a natural phenomenon in the dimension of knowledge (scientific). In this way, knowledge can be linked to the aspect of ukhrawi value (the Hereafter), where paying attention to the order in the universe will further increase the belief in the existence of an undeniable Almighty power, namely Allah Subhanahu wa Ta'ala (Chandra & Yudyanto, 2013).

Based on the above problems, it is necessary to develop integrated Alquran and Hadith integrated science modules to improve the religious character of seventh grade junior high school students as teaching materials for students. The development of a science module needs to be done to make the module valid and effective for use in learning and to achieve the application of students' religious character during learning. The science module developed can be used as teaching material for teachers in teaching or for use by students alone.

METHODS

The research used the *research and development* (R&D) method to adapt the development model of Sugiyono (2013). This module is developed to produce products that are tested on a large scale to see cognitive learning outcomes and students' religious character interests during learning. Large scale testing using Times Series Design. This design only uses one group, so it does not require a control group (Sugiyono, 2016). The study used one group because researchers carried out three series of studies with repeated times so that they could see the applicability of students' religious characters and be able to measure the increase in student cognitive learning outcomes. Before being given the treatment, the experimental group was first given a

pre-test, then given treatment using an integrated science learning model of religious character and after that was given a *post-test*.

Table 1. Time Series Design research design (Sugiyono, 2016)

Pre-test	Treatment	Post-test
O_1	X_1	O_2
O_3	X_2	O_4
O_5	X_3	O_6

Description:

$O_1O_3O_5$ = The pre test value before treatment

$X_1X_2X_3$ = Treatment using an integrated science module of the Qur'an and Hadith

$O_2O_4O_6$ = Post test scores after being given treatment

Data collection techniques were carried out by validating material and media expert validation questionnaires, teacher and student response questionnaires, and student religious character assessment questionnaires which included self-assessment questionnaires, peer assessments, and teacher assessments.

The quality of the integrated science module of the Qur'an and Hadith to improve the religious character of junior high school students is known from the results of validation by experts, teacher and student responses.

To measure the validity level of product development, the following analysis techniques are used (Arikunto, 2006: 81).

$P = \frac{f}{n}$ x 100%

Description:

P = The percentage of eligibility for integrated science modules with religious character

f = Answer frequency

n = The maximum score for the assessment aspect

Meanwhile, as a basis for decision making to revise teaching materials the following assessment criteria are used.

Table 2. Criteria for the Validity of the Learning Module

Percentage (%)	Validity Criteria
80 – 100	Very valid
61– 80	Quite valid
41 – 60	Valid
21 – 40	Less valid
< 21	Invalid

(Arikunto, 2009:35)

Cognitive learning outcomes are calculated by using the *N-gain test*, the pre-test and post-test values using the formula:

$(g) = \frac{Spost - Spre}{Smaks - Spre}$

Description:

g (*gain*) : Improved student cognitive learning outcomes

S post : Final test score

S pre : Initial test score

S maks : Maximum test score

Category of *N-gain* calculation:

Table 3. Category of *N-Gain* Score Acquisition

Limitation	Category
$g > 0.7$	High
$0.3 < g \leq 0.7$	Moderate
$g \leq 0.3$	Low

Religious character analysis was obtained from character assessment instrument data based on teacher observation sheets, peer observation sheets, and student self-questionnaires. The formula used is as follows (Arikunto, 2006).

$P = \frac{f}{N}$ x 100%

Description:

P = Percentage of applicability

f = Score achieved

n = Maximum score

The results of the calculation of the score of the applied level obtained are matched with the applied criteria for character assessment adapted from Arikunto (2010: 44) in the following table.

Table 4. Character Assessment Applicability Criteria

Precentage (%)	Category
81-100	Very high
61-80	High
41-60	Moderate
21-40	Low
0-20	Very low

(Arikunto, 2010)

RESULTS AND DISCUSSION

The results of the study include the validity of the developed modules, student cognitive learning outcomes, and the application of religious characters during learning using modules.

The validity of the integrated science module of the Qur'an and Hadith

Module validation is carried out by a validator consisting of material expert validators and media experts. Validation aims to provide a feasibility assessment based on the material aspects, presentation, and language suitability of the module so that later modules are developed according to student needs (Fidiastuti et al., 2016).

The instruments given to the material expert validator and media expert respectively totaled 33 items and 31 items with the lowest score of 1 and the highest score 4. The results of the validation of the material experts and media experts each got a score of 67.42% with criteria quite valid and 95,96% with very valid criteria. Judgment from material experts is used as a reference in improving the module in terms of material. Meanwhile, the media expert's assessment is used to improve language suitability and graphic aspects of the module such as font size, font selection, image size, and background color that contrasts with the displayed image.

The integrated science module of the Qur'an and Hadith which has been declared valid and goes through the revision stage is then tested in schools to determine the response of teachers and students to the feasibility of learning using modules. The results of teacher and student responses each got a score of 81.66% with very valid criteria and 73.66% with fairly valid criteria.

Student Cognitive Learning Outcomes

Cognitive ability is a knowledge and understanding of concepts to achieve and improve learning outcomes through learning efforts after following a subject matter measured through a test (Murti et al., 2014). Study results are known to be carried out on 3 materials, namely global warming, the layers of the earth, and the solar system. Measurement of learning outcomes using formative test questions which then analyzed student test results by comparing the pre-test score with the final test score (*post-test*).

The N-gain values for each of the global warming material, the earth's layer, and the solar system are 0.59 (moderate), 0.49 (moderate), and 0.62 (moderate), respectively. The average value of N-gain on all materials is 0.56 indicating an increase in learning outcomes between before and after carrying out learning activities with moderate criteria. This means that there is a successful learning process after learning using modules. At the beginning of learning, students have not been taught the material in depth. After learning using modules then students are tested and show improved learning outcomes. After learning to use the student module, they have more understanding of the material so that the use of the module is effectively used as teaching material on global warming material, the earth's layers, and the solar system. According to Kristanti et al., (2012), effectiveness can be achieved due to an increase in student learning achievement. In line with the opinion of Sari & Susanti (2016), that a medium can be said to be effective if it can increase activity and learning outcomes. The same results also occurred in the (moderate) N-gain criteria in the research of Afifah et al., (2018) regarding the development of the E-module material kingdom *plantae.*

Applicability of Students' Religious Characters

The module developed has a relationship with the religious character applied in learning. Each material in the Science module is integrated with the Koran and Hadith along with an explanation of their meaning. The applicability of students' religious character was measured using 3 instruments, namely self-assessment questionnaires, peer-assessment questionnaires, and teacher observation sheets. The religious character assessment instrument consists of 30 statements with 2 answer scores, namely 0 and 1. The profile of religious character interest is measured as a percentage of all indicators shown in the following Figure 1.

The assessment of the application of religious character shows the results of the application of fluctuating religious characters on the indicators of "protecting and preserving the environment" and "Implementation of worship as a form of faith and learning reflection" has increased at the beginning of the first to second learning but decreased in the third lesson.

At the beginning of learning students give a positive response to learning using modules. Students look enthusiastic in participating in learning because students get new things in the form of modules they get to learn. Students are more

orderly in participating in class learning. The religious character of students seems to have begun to develop in terms of protecting the environment and the application of daily worship. According to Trimantoto (2016) learning using modules also gets a good response from students so that student learning outcomes can increase because in the module students are invited to be able to study independently or in groups and can measure their own learning abilities through the questions contained in the module, and the material in the module is packaged attractively and takes into account the characteristics of students.

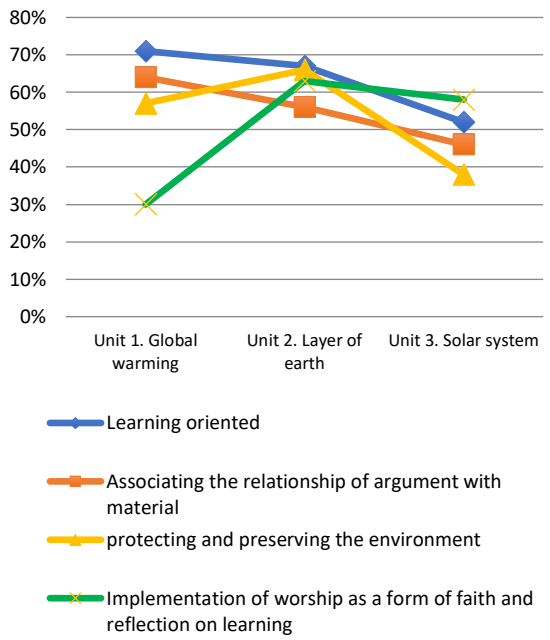

Figure 1. Applicability of Students' Religious Characters

Science provides extensive knowledge in various fields of human life so that the connection with the cultivation of religious values cannot be separated. According to Mukaromah (2018) although modern science has provided many benefits and advances in various fields for humans, this cannot be separated from its negative impact, namely the distance of religious values in human life. The science learning module which is integrated with religious values has the aim that students not only have knowledge of scientific theories but to instill confidence in students that natural science is closely related to religious values and can form characters, especially religious characters. In learning students are trained and accustomed to shape attitudes / feelings and behavior, religious beliefs or souls, and have good knowledge of knowledge. According to Rawas Qal'ahji (2013) states that Islam regulates the tawazun (balance) of life in the world and the hereafter. Rasulullah Shallallahu 'Alaihi wa Sallam in forming the choice generation intensified the three intelligences, namely emotional, spiritual and intellectual.

Along with the implementation of learning, students tend to be less orderly in participating in learning. There is a decrease in learning orientation so that it has an impact on understanding the material relating to the verses of the Koran and Hadith. This is because not all school members know and understand very well the purpose of learning that integrates the Koran and Hadith that is being developed. Several other class students still showed deviant behaviors in terms of order, so that it had an impact on students who were carrying out learning with modules. There is still a lack of togetherness among the school community in developing school programs for fostering student religious character, the ability of students in class who tend not to be able to fully understand the integration of religious character values into subjects, especially science subjects, and there are still some parents of students who less participation or less support in fostering student religious character. Therefore, in developing the religious character of students, there needs to be support from all parties, including students, teachers, schools and parents.

CONCLUTION

Based on the research, the developed module has very valid criteria by material experts and media experts so that it can be used in learning activities. The teacher and student responses to the Science module obtained positive results so that the Science module was feasible to be used as science teaching material. The science module developed effectively improves student cognitive learning outcomes with moderate criteria. The applicability profile of students' religious character develops and tends to increase in the indicators of "protecting and preserving the environment" and "Implementation of worship as a form of faith and learning reflection".

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